

Appl. No. : 10/615,332
Filed : July 8, 2003

REMARKS

In response to the Office Action mailed November 2, 2007, Applicant respectfully requests the Examiner to reconsider the above-captioned application in view of the foregoing amendments and the following comments and the Request for Continued Examination filed herewith.

Claim Rejections

Claims 12-14, 19-23 and 26 stand rejected as unpatentable over Murakami (USPN 6,126,994) in view of Modisette (USPN 3,981,156). Claims 15 and 16 stand rejected as unpatentable over Murakami and Modisette in view of Kaloyeros (USPN 5,376,409). Claims 17, 31 and 32 stand rejected as unpatentable over Murakami and Modisette in view of Kaloyeros and in view of Sturm (USPN 6,178,925). Claims 24 and 25 stand rejected as unpatentable over Murakami and Modisette in view of Van Buskirk (USPN 5,882,416). Claims 27-30 stand rejected as unpatentable over Murakami and Modisette in view of Bondestram (USPN 7,063,981). Claims 33 and 34 stand rejected as unpatentable over Murakami and Modisette in view of Gauthier (USPN 6,007,330).

Applicant respectfully disagrees with the rejection of these claims. Nevertheless, to advance prosecution, Applicant has amended independent Claim 12 such that it recites, in part, "maintaining the vaporization chamber at a higher temperature than the storage container." Applicant reserves the right to pursue the previous version of Claim 12 in a similar form in a continuing application.

As noted in the previous response, Claim 12 recites, in part, a method for providing vapor phase reactant from solid or liquid source, "returning the unvaporized liquid to the storage container; and returning the unvaporized liquid to the vaporization chamber."

In the "Response to Arguments," the Office Action states that "the recitation of draining and returning the liquid back to the reservoir is a recitation of intended use of the valves and passages and must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art." Applicant respectfully disagrees. The claims in the pending application are *method claims* in which the "intended use" are specifically and properly claimed.

The Office Action also certain features described on page 7 of the Office Action as advantages of the claimed method. To advance prosecution, Applicant has amended Claim 12 to

Appl. No. : 10/615,332
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more positively recite that the vaporization chamber is maintained at a higher temperature than the storage container, which relates to one of the advantages described on page 7.

As noted in the previous response, Murakami merely discloses common connections and passages between the passage 52 and the container 4. Within these common connections are line 20 and valve VB. These components do have a purpose that is not related to draining the unvaporized liquid back to the reservoir. Specifically, the common passages serve another purpose. Specifically, as stated at Col 5, lines 48-55, Murakami discloses that:

In the present embodiment, considering a case that the residual liquid, etc. cannot be sufficiently drawn off by draw through the discharge passage 52, a purge (washing) liquid supply passage 64 is connected to the second pressure liquid supply passage 24B through a pressurization passage 10 which can be disconnected by a valve operation. Purge (washing) liquids can be alcohol, such as ethanol, methanol, etc., and organic solvents, such as hexane, etc.

Thus, there is an equally sufficient use for the valve VB, specifically to provide isolation during purge (washing).

For example, Murakami also discloses at Col. 8, lines 1-10:

First, the first and the second opening/closing valves VA, VB of the reservoir 4 in FIG. 1 are closed to place the reservoir out of communication. The first shut-off valve V1 of the second pressure liquid supply passage 24B is opened, the second shut-off valve V2 thereof being closed. The first and the second discharge shut-off valves V5, V6 of the branched passages 54A, 54B communicated with the discharge passage 52 are closed, the third discharge shut-off valve V7 of the branched passage 54C and the main opening/closing valve V4 being opened.

Thus, residual liquid material on the mouth ring of the pipe of the reservoir 4, and that on the mouth ring for connection between the second pressure liquid supply passage 24B and the reservoir 4 is drawn and expelled through the discharge passage 52.

In addition, Applicant submits there is no motivation in this reference or the other cited references to modify or use such passages to return the unvaporized liquid to the container 5. In considering whether a combination the references must be considered as a whole for all that they teach or suggest. In this case, Murakami *teaches away* from such a modification or combination by disclosing "a cold trap 60 for removing liquid from exhaust." Col. 5, lines 38-40.

Appl. No. : 10/615,332
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The Office Action cites Modisette for the teaching that one would want to recover vapors in chemical processes and return them to a storage container to prevent the loss of valuable material. However, Claim 12 recites, in part, “*returning the unvaporized liquid to the storage container; and returning the unvaporized liquid to the vaporization chamber.*” In contrast, Modisette is concerned with collecting vaporized liquid that has been already sprayed through the nozzle 4. See Col. 3, lines 15-25. Thus, the proposed combination does not disclose, teach or suggest all of the claim limitations and thus does not provide a *prima facie* case of obviousness. Again, Applicant notes that *Claim 12 is a method claim and these limitations must be given weight.*

As stated in the application, the claimed method advantageously provides for “hold[ing] the bulk of liquid reactant (or solid reactant dissolved in a liquid solvent) outside of the reactor hot zone(s), and so are not subject to decomposition from prolonged exposure to high temperatures.” Moreover, “[r]efilling the storage container outside of the hot zone(s) is simplified, and the bulk of the liquid reactant is not subject to prolonged exposure to destabilizing temperatures.” “At the same time, the advantages of maintaining a vaporization chamber within a hot zone are maintained.” “Furthermore, between deposition runs, or periodically when not needed, remaining liquid reactant in the vaporization chamber can be drained back to the storage container or to a separate drain container, where cooler temperatures are maintained. “ *These advantages cannot be obtained by combining the teachings of Modisette with the teachings of Murakami in that Modisette is directed to recycling sprayed or vaporized liquid.*

For at least these reasons, Applicant submits that pending claims as amended are in condition for allowance

CONCLUSION

For the foregoing reasons, it is respectfully submitted that the rejections set forth in the outstanding Office Action are inapplicable to the present claims. Accordingly, early issuance of a Notice of Allowance is most earnestly solicited.

The undersigned has made a good faith effort to respond to all of the rejections in the case and to place the claims in condition for immediate allowance. Nevertheless, if any undeveloped

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issues remain or if any issues require clarification, the Examiner is respectfully requested to call Applicant's attorney in order to resolve such issue promptly.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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